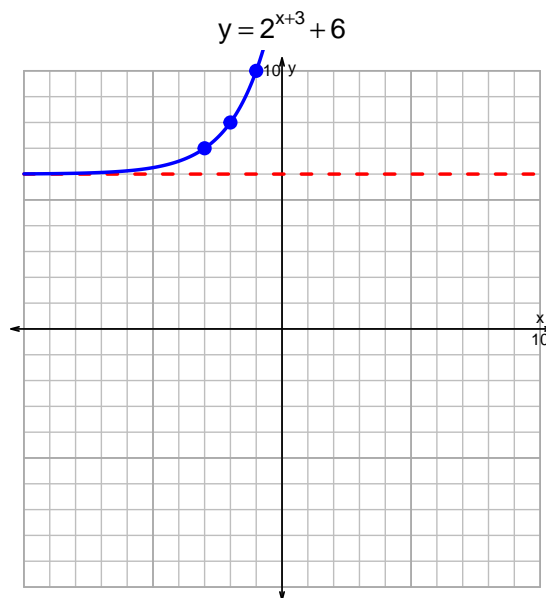
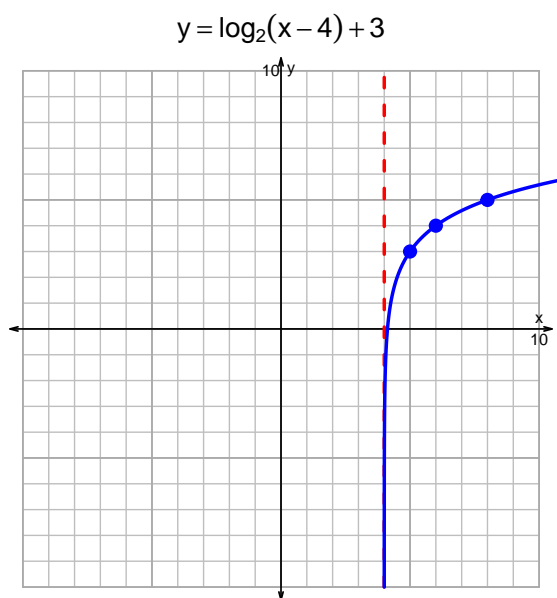


Name: _____

Date: _____

s18QUIZ: EXP LOG (PRACTICE v1)

- Graph $y = \log_2(x - 4) + 3$ and $y = 2^{x+3} + 6$ on the grids below. Also, draw any asymptotes with dotted lines.



- Write (but do not evaluate) the solution to the equation below by writing a logarithmic expression.

$$-19 = \left(\frac{-3}{5}\right) \cdot 10^{-4t/7}$$

Divide both sides by $\frac{-3}{5}$.

$$\frac{19 \cdot 5}{3} = 10^{-4t/7}$$

Take log, base 10, of both sides.

$$\log_{10} \left(\frac{19 \cdot 5}{3} \right) = \frac{-4t}{7}$$

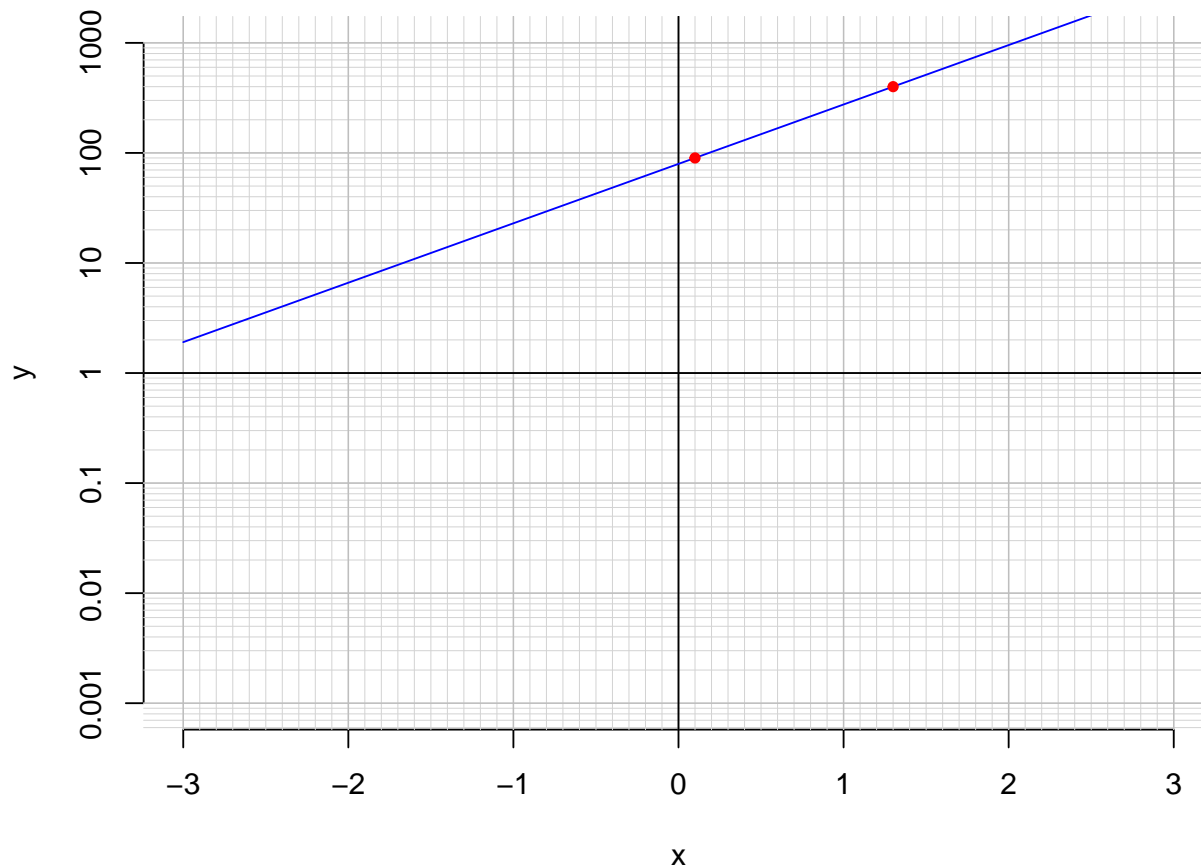
Divide both sides by $\frac{-4}{7}$.

$$\frac{-7}{4} \cdot \log_{10} \left(\frac{19 \cdot 5}{3} \right) = t$$

Switch sides.

$$t = \frac{-7}{4} \cdot \log_{10} \left(\frac{19 \cdot 5}{3} \right)$$

3. An exponential function $f(x) = 79.5 \cdot e^{1.24x}$ is graphed below on a semi-log plot.



- a. Using the plot above, evaluate $f(1.3)$.

$$f(1.3) = 400$$

- b. Express $f^{-1}(x)$, the inverse of f .

$$f^{-1}(x) = \frac{1}{1.24} \cdot \ln\left(\frac{x}{79.5}\right)$$

- c. Using the plot above, evaluate $f^{-1}(90)$.

$$f^{-1}(90) = 0.1$$